1. A method of applying a beam of tissue-ablating laser radiation to affect the shape of a cornea without introducing any substantial asymmetry to the shape of said cornea, said method comprising the steps of exposing the cornea to laser radiation comprising the steps of:

(a) providing a laser beam having an predefined shape along a beam axis; and

(b) exposing a plurality of corneal regions to a plurality of laser beam subportions to affect the shape of said cornea without introducing any substantial asymmetry to the shape of said cornea, said laser beam subportions each being asymmetrical with respect to said laser beam axis and having a cross sectional shape substantially defined by a portion of the periphery of said predefined shape, each of said subportions of said laser beam being produced by occluding a portion of said beam of predefined shape.

2. A method of applying a beam of tissue-ablating laser radiation to affect the shape of a cornea, said method comprising the steps of exposing the cornea to laser radiation comprising the steps of providing a laser beam having an predefined shape along a beam axis and sequentially:

(a) exposing a series of successive first region of the cornea to a first subportion of said laser beam, said first subportion of the beam being asymmetrical with respect to said laser beam axis and having a cross sectional shape substantially defined by a portion of the periphery of said predefined shape, said subportion of said laser beam being produced by occluding a portion of the beam of predefined shape; and

(b) exposing at least a second region of the cornea to a second subportion of said laser beam, said second subportion of the beam being asymmetrical with respect to said laser beam axis and having a cross sectional shape substantially defined by a portion of the periphery of said predefined shape, said subportion of said laser beam being produced by occluding a portion of the beam of predefined shape;a segmental shape consisting of a base and an arc wherein at least a portion of the

arc of the second portion of the beam is coincident with the arc of the first portion of the beam and wherein said second portion of the beam is larger than said first portion of the beam and includes all of said first portion of the beam, said second portion of the beam being produced by occluding the beam;

(b) exposing a second region of the cornea to laser radiation wherein said second region is complimentary to the first region of the cornea comprising the steps of sequentially:

(i) exposing a first part of the second region of the cornea to a third portion of said beam, said third portion of the beam having a segmental shape consisting of a base and an arc and being produced by occluding the beam; and

(ii) exposing at least a second part of the second region of the cornea to a fourth portion of said beam, said fourth portion of the beam having a segmental shape consisting of a base and an arc wherein at least a portion of the arc of the fourth portion of the beam is coincident with the arc of the third portion of the beam and wherein said fourth portion of the beam is larger than said third portion of the beam and includes all of said third portion of the beam, said fourth portion of the beam being produced by occluding the beam;

(c) exposing a third region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of the third region of the cornea to a fifth portion of said beam, said fifth portion of the beam having a segmental shape consisting of a base and an arc wherein a line coincident with the base of said fifth portion of the beam is perpendicular to a line coincident with the base of said first portion of the beam, said fifth portion being produced by occluding the beam; and

(ii) exposing at least a second part of the third region of the cornea to a sixth portion of said beam, said sixth portion having a segmental shape consisting of a base and an arc wherein at least a portion of the arc of the sixth portion of the beam is coincident with the arc of the fifth portion of the beam and wherein said sixth portion of the beam is larger than said fifth portion of the beam and includes all of said fifth portion

of the beam, said sixth portion of the beam being produced by occluding the beam; and

(d) exposing a fourth region of the cornea to laser radiation wherein said fourth region is complimentary to the third region of the cornea comprising the steps of sequentially:

(i) exposing a first part of the fourth region of the cornea to a seventh portion of said beam, said seventh portion of the beam having a segmental shape consisting of a base and an arc and being produced by occluding the beam; and

(ii) exposing at least a second part of the fourth region of the cornea to an eighth portion of said beam, said eighth portion of the beam having a segmental shape consisting of a base and an arc wherein at least a portion of the arc of the eighth portion of the beam is coincident with the arc of the seventh portion of the beam and wherein said eight portion of the beam is larger than said seventh portion of the beam and includes all of said seventh portion of the beam, said eighth portion of the beam being produced by occluding the beam.

3. A method of applying a beam of tissue-ablating laser radiation to affect the shape of a cornea, said method comprising the steps of:

(a) exposing a first region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of the first region of the cornea to a first portion of a laser beam, said beam having a substantially circular cross-section, said first portion of the beam having a segmental shape consisting of a base and an arc and being produced by occluding the beam; and

(ii) exposing at least a second part of the first region of the cornea to a second portion of said beam, said second portion of the beam having a segmental shape consisting of a base and an arc wherein at least a portion of the arc of the second portion of the beam is coincident with the arc of the first portion of the beam and wherein said second portion of the beam is larger than said first portion of the beam and includes all of said first portion of the beam, said second portion of the

beam being produced by occluding the beam; and

(b) exposing at least a second region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of at least the second region of the cornea to a third portion of said beam, said third portion of the beam having a segmental shape consisting of a base and an arc wherein said base of said third portion is oriented angularly to said base of said first portion of the beam, said third portion of the beam being produced by occluding the beam; and

(ii) exposing at least a second part of at least the second region of the cornea to a fourth portion of said beam, said fourth portion of the beam having a segmental shape consisting of a base and an arc wherein at least a portion of the arc of the fourth portion of the beam is coincident with the arc of the third portion of the beam and wherein said fourth portion of the beam is larger than said third portion of the beam and includes all of said third portion of the beam, said fourth portion of the beam being produced by occluding the beam.

4. A method of applying a beam of tissue-ablating laser radiation to affect the shape of a cornea, said method comprising the steps of:

(a) exposing a first region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of the first region of the cornea to a first portion of a laser beam said first portion of the beam being produced by occluding the beam; and

(ii) exposing at least a second part of the first region of the cornea to a second portion of said beam wherein said second portion of the beam is larger than said first portion of the beam and includes all of said first portion of the beam, said second portion of the beam being produced by occluding the beam; and

(b) exposing at least a second region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of at least the second

region of the cornea to a third portion of said beam, said third portion of the beam being produced by occluding the beam; and

(ii) exposing at least a second part of the second region of the cornea to a second portion of said beam wherein said second portion of the beam is larger than said first portion of the beam and includes all of said first portion of the beam, said second portion of the beam being produced by occluding the beam.

5. A method of applying a beam of tissue-ablating laser radiation to affect the shape of a cornea, said method comprising the steps of:

(a) exposing a first region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of the first region of the cornea to a first portion of a laser beam, said beam having a substantially circular cross-section, said first portion of the beam having a segmental shape consisting of a base and an arc and being produced by occluding the beam; and

(ii) exposing at least a second part of the first region of the cornea to a second portion of said beam, said second portion of the beam having a segmental shape consisting of a base and an arc wherein the base of the second portion of the beam is spaced from and parallel to the base of the first portion of the beam and wherein said second portion of the beam is larger than said first portion of the beam and includes all of said first portion of the beam, said second portion of the beam being produced by occluding the beam;

(b) exposing a second region of the cornea to laser radiation wherein said second region is complimentary to the first region of the cornea comprising the steps of sequentially:

(i) exposing a first part of the second region of the cornea to a third portion of said beam, said third portion of the beam having a segmental shape consisting of a base and an arc and being produced by occluding the beam; and

(ii) exposing at least a second part of the second region of the cornea to a fourth portion of said beam, said

fourth portion of the beam having a segmental shape consisting of a base and an arc wherein the base of the fourth portion of the beam is spaced from and parallel to the base of the third portion of the beam and wherein said fourth portion of the beam is larger than said third portion of the beam and includes all of said third portion of the beam, said fourth portion of the beam being produced by occluding the beam;

(c) exposing a third region of the cornea to laser radiation comprising the steps of sequentially:

(i) exposing a first part of the third region of the cornea to a fifth portion of said beam, said fifth portion of the beam having a segmental shape consisting of a base and an arc wherein a line coincident with the base of said fifth portion of the beam is perpendicular to a line coincident with the base of said first portion of the beam, said fifth portion being produced by occluding the beam; and

(ii) exposing at least a second part of the third region of the cornea to a sixth portion of said beam, said sixth portion of the beam having a segmental shape consisting of a base and an arc wherein the base of the sixth portion of the beam is spaced from and parallel to the base of the fifth portion of the beam and wherein said sixth portion of the beam is larger than said fifth portion of the beam and includes all of said fifth portion of the beam, said sixth portion of the beam being produced by occluding the beam; and

(d) exposing a fourth region of the cornea to laser radiation wherein said fourth region is complimentary to the third region of the cornea comprising the steps of sequentially:

(i) exposing a first part of the fourth region of the cornea to a seventh portion of said beam, said seventh portion of the beam having a segmental shape consisting of a base and an arc and being produced by occluding the beam; and

(ii) exposing at least a second part of the fourth region of the cornea to an eighth portion of said beam, said eighth portion of the beam having a segmental shape consisting of a base and an arc wherein the base of the eighth portion of the beam is spaced from and parallel to the base of the seventh

portion of the beam and wherein said eight portion of the beam is larger than said seventh portion of the beam and includes all of said seventh portion of the beam, said eighth portion of the beam being produced by occluding the beam.